



NORWICH
City Council

Push the Pedalways: NORWICH CYCLING AMBITION

2015-19





30 January 2015

Cycling Ambition
Department for Transport
Great Minster House
33 Horseferry Road
London
SW1P 4DR

Dear DfT Colleagues

Norwich Cycle Ambition Grant application

Thank you for inviting us to submit an application for further Cycle Ambition Grant funding. We are delighted by the opportunity to continue our work to transform the quality of cycling infrastructure in the Greater Norwich area.

We have carefully put together a four-year programme that is based on the vision outlined in our original cycling ambition application of April 2013. The programme concentrates on the comprehensive improvement of two more pedalways – yellow and blue. The total cost of the investment package is £15.389m, which equates to £10.09 per capita per year over four years. Of this, 54.8% or £8.437m, is sought from the DfT to be spent in the first three years of the programme. The economic appraisal that we commissioned from consultants has concluded that our programme achieves a benefit to cost ratio of 2.58, comfortably within the DfT's high value for money category.

Our application is enclosed. It consists of several parts:

- Application form
- Appendix 1 – map illustrating our proposed cycling ambition programme
- Appendix 2 – package costs and funding profile spreadsheet
- Appendix 3 – scheme impact pro formas
- Appendix 4 – economic appraisal report
- Appendix 5 – analytical maps
- Appendix 6 – endorsements and funding confirmation

The letters and emails in appendix 6 confirm that the match funding to be provided by third parties is available and we can confirm that the section 106 funds to be supplied by Norwich City Council are also available.

Our cabinet approved the submission of this application at their meeting on 14 January. However, there is one further procedural step that must be undertaken before officers could begin implementing the programme, which is to incorporate all funds that are required for this programme into the capital programme and plan. We intend to seek approval for this at the full council meeting on 17 February, mindful that all the political parties on the council support the principle of building more cycling infrastructure and delivery of the pedalway programme specifically. The text of the section 151 officer's declaration in the application form has been slightly amended to reflect this. We are happy to resubmit the signed declaration with the original wording on 18 February, if required.

We would like to signal our interest in two related proposals made by DfT in recent weeks. Firstly, we would like to participate in the pilot project with the Cycle Proofing Working Group, as proposed in the email from Angela Trevithick on 31 December. We have benefitted from the critical scrutiny provided by Phil Jones through the design development phase of our current cycle ambition project and would embrace the involvement of a wider group of experts. Secondly, we have begun developing 'pipeline proposals' for the cycling ambition programme for submission within the next couple of months in response to the invitation from Angela in her email of 15 January.

We look forward to continuing our fruitful partnership with DfT and our close working relationship with the other seven cities over the next few years so that we can produce infrastructure to be proud of and that others can emulate.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'David Moorcroft', written in a cursive style.

David Moorcroft

Executive head of regeneration and development

Email: davidmoorcroft@norwich.gov.uk

Tel: 01603 212226

Cycle City Ambition Grants



Department
for Transport

Applicant Information

City Name: Norwich

Bid Manager Name and position:

Ben Webster, design conservation and landscape manager, Norwich City Council

Contact telephone number: 01603 212518 **Email address:** benwebster@norwich.gov.uk

Postal address: City Hall, St Peter's Street, Norwich NR2 1NH

SECTION A - Project description and funding profile

A1. Project name: Push the Pedalways: blue and yellow

A2. Headline description:

The Greater Norwich local authorities are committed through their City Deal to building excellent cycling infrastructure to support our ambitious plans for sustainable growth. The city's ambition is to double levels of cycling in Norwich between 2013 and 2023 and use cycling as a catalyst for a more prosperous, liveable and carbon-efficient city. Two routes, 31km in length, connecting the city with peripheral towns, employment centres and growth areas within cycle commuting distance, will be redesigned so that everyone can ride in confidence and safety. Connecting communities to employment centres offering 76,800 existing and up to 13,000 planned jobs generates economic growth and contributes to the scheme's high value for money with a benefit to cost ratio of 2.58.

A3. Geographical area:

The area of Greater Norwich is one of the fastest growing parts of the country and is currently home to 381,170 people within the jurisdiction of Norwich City, Broadland District and South Norfolk councils. The investment programme in this application will extend the area covered by the Norwich cycle network to include Hethersett and Wymondham in South Norfolk and the Beeston Park development on the edge of Sprowston in Broadland district. These are growing places within cycle commuting distance of the city. The investment programme concentrates on the blue and yellow pedalways, which are illustrated on the enclosed map (appendix 1). The blue pedalway will connect Wymondham to Sprowston and the yellow connects Lakenham to the airport. Both pass through the city centre where most of the jobs and services in the area are located.

A4. Total DfT funding contribution sought (£m): £8.427m

SECTION B – The Business Case

B1. The Scheme - Summary

1. Our scheme objectives

Our scheme objectives are to:

- boost economic growth by enabling residents to reach job opportunities, city centre facilities and linking major development sites to the cycle network
- provide cycling infrastructure at an early stage of new development to shape travel behaviour from the outset
- tackle health problems in parts of the city with high levels of obesity by providing cycling infrastructure
- double the level of cycling within ten years of the start of our cycling ambition programme in 2013
- broaden the demographic appeal of cycling
- reduce the rate of accidents involving cyclists and pedestrians
- cut carbon emissions from journeys within the city.

2. Working with partners to develop our scheme

We developed our pedalway network in spring 2012 after a series of consultation rides where local cyclists helped to shape the network. Our work with the cycling community helped reveal many clever shortcuts that speed cyclists across the city away from traffic. The network consists of five radial and two orbital pedalways (inner and outer) that currently amount to about 95km. The pedalways extend throughout the urban area and the radials intersect in the city centre at St Andrews Plain. Their alignment offers the optimal combination of convenience, comfort, safety and enjoyment.

Each pedalway has a colour identity that helps with route planning and navigation. We have agreed a signage strategy with the DfT that incorporates the colour coding. These signs are currently being installed as part of the first phase of Push the Pedalways. The pedalways are useful for short journeys but their focus is to provide for longer journeys connecting hubs such as public transport interchanges, employment centres, the universities, major growth locations and the city centre, while the gaps are filled in by neighbourhood routes that connect to schools and local shops.

The entire network can be ridden today and the pink pedalway is being comprehensively upgraded through the first phase of Push the Pedalways but many sections are not as good as they need to be to make cycling a mainstream activity. Some large settlements beyond the urban area like Wymondham do not have a viable cycling connection.

This programme has been developed in partnership with Norfolk County Council transport and public health teams, Broadland District Council, South Norfolk Council, New Anglia Local Enterprise Partnership, Sustrans, private developers and landowners and the Norwich Cycling Campaign (see letters of endorsement and logos in appendix 6 and on the back cover of this application).

3. Our scheme

Our scheme is illustrated in the map at appendix 1.

It shows the blue pedalway, which will extend for 21.2km between Wymondham in the south west and Sprowston in the north east via the city centre. At Wymondham and Hethersett permission has been granted for 3,600 homes and 25ha of employment development and further along the A11/Newmarket Road corridor the route passes through Cringleford, where 1200 homes are planned. It will terminate at the recently approved environmentally exemplary development of 3,520 homes and 16.8ha of employment land at Beeston Park on the edge of Sprowston, which is part of the larger north east growth triangle.

The yellow pedalway will extend for 9.8 km linking the new University Technical College in the south of the city, through Lakenham to city centre and out to the neighbourhoods of Catton and Fiddlewood in northern suburbs, eventually connecting to the airport (1,300 existing jobs and 40ha of land for employment development) and surrounding industrial estate.

Our investment will be focused on these routes, along with a couple of key links that will enable cyclists to get to them, as well as complementary signage and speed management measures.

We have surveyed the routes and identified 36 locations where the quality of the infrastructure could be improved. The map shows where they are. The changes we plan to make and the problems that will be tackled are explained in part B4 of this application. These interventions will be supported by the introduction of:

- more 20mph coverage of residential areas, meaning that 70.6% of homes within the city council's area would be on streets covered by 20mph restrictions in 2018 compared with 22.5% per cent in 2014, plus 8,249 more homes in the suburbs of Norwich outside the city council's area.
- targeted speed management in Catton, Cringleford, Eaton, Fiddlewood, Lakenham, Mile Cross, Old Catton, Sprowston and Tuckswold
- access improvements for cyclists in the city centre, including contraflows to overcome blockages caused by one-way streets
- cycle parking at key destinations on the blue and yellow pedalways
- augmentation of our existing network of automatic cycle counters to monitor the performance of the interventions.

The result will be two cross-city routes that directly connect homes to important destinations and can be more safely ridden by less experienced riders (such as an unaccompanied twelve-year-old) because the entire length is either separate from traffic or shares road space with traffic that travels at or below 20mph. The quality of design will maintain the level established through the current cycle ambition funded programme. Photomontages of the cycling infrastructure that we are building in The Avenues and Magdalen Street as part of the current cycling ambition programme are reproduced below.



The Avenues visualisation of approved scheme as part of the original cycling ambition programme (above)

Magdalen Street – visualisation of scheme under construction as part of the original cycling ambition programme (below)



4. Scheme benefits

The blue and yellow pedalways have been chosen for the following reasons:

- The yellow pedalway enables people to access existing and new knowledge-intensive jobs related to aerospace industry at the airport.
- The yellow pedalway will be extended at both ends to connect to new educational institutions – the recently opened University Technical College in the south and the nationally unique aviation academy that will support 80 engineering apprenticeships each year when it opens in September 2016.
- People living in the relatively deprived neighbourhoods of Catton, Fiddlewood, Lakenham and Tuckswold on the yellow pedalway will be enabled to reach facilities and job opportunities by bicycle, without having to spend scarce money on bus fares, taxis or running a car. This is especially useful for shift and evening workers (particularly in bar/restaurant and leisure employment) to access work opportunities when there are fewer bus services.
- The western part of the blue pedalway between Eaton and the city centre currently has a high rate of cycling to work so many existing cyclists will benefit from the infrastructure improvements. One of the maps in appendix 5 shows this. There is a high concentration of the demographic segment referred to as ‘educated suburban families’ located adjacent to the blue pedalway, which the DfT-commissioned research ‘Climate Change and Transport Choices’ concludes is the most predisposed to cycle.
- The routes pass through Norwich city centre, which is a major regional centre for employment, tourism and culture and the highest ranking retail centre in the East of England with a significantly higher proportion of its retailing in the city centre than any other major city in the country. It is also a big employment centre with particular strengths in financial services and creative/digital enterprise.
- The yellow pedalway route re-alignment will help stimulate the development of the biggest brownfield development site in the city centre at Anglia Square.
- Both routes intersect with National Cycle Route 1 at St Andrew’s Plain and are close to the railway station where train operator Abellio Greater Anglia is about to build a cyclepoint.
- Investment in the northern part of the blue pedalway route will shorten the route by 419m and the northern part of the yellow pedalway will be shortened by 190m, creating a more direct connection to jobs at the airport and the city centre for people living in the northern suburbs.
- The proposed large new neighbourhoods that will be created on the edge of the city in Broadland at Beeston Park and at Cringleford in South Norfolk can be plugged into the cycle network through the blue pedalway. Providing an excellent cycle connection before the first residents move in will help to shape their travel habits from the start.
- The blue pedalway element will improve connectivity to the planned country park at Beeston, which will make a major contribution to the green infrastructure network and thereby overcome potential recreational impacts on sensitive European habitats in the Norfolk Broads, which would otherwise prevent growth.
- The separate settlements of Hethersett and Wymondham, with a combined population of 20,100 will be given a strengthened cycle connection to the city through the blue pedalway.

- The park and ride sites at Thickthorn on the blue pedalway and the airport on the yellow will have park and cycle initiatives launched with better secure cycle parking and promotion of the opportunity to cycle from the park and ride site, rather than taking a bus.
- In the last five years there have been 234 accidents involving cyclists and pedestrians in the places where we plan to provide better cycling infrastructure. It is predicted that the implementation of the projects will reduced this by 29 each year.

B2. The Strategic Case

1. Our aspiration for Greater Norwich

We aim to become an admired example of a progressive and prosperous European cycling city by doubling the level of cycling within ten years. In 2011 20% of adults in Norwich City Council’s area cycled at least once per week, the fifth highest of any local authority and we aim to raise this to 44% by 2023. In 2011 6% per cent of adults usually travelled to work by bicycle, the sixth highest local authority percentage and we aim to raise this to 15% by 2023. Figure 1 illustrates our intended trajectory of progress and compares our current cycling levels to the averages for England and the small number of cities that currently exceed our levels. We also aim to narrow the gap in cycling rates between women and men and between children and older people and those of working age. We include these demographic characteristics in our monitoring.

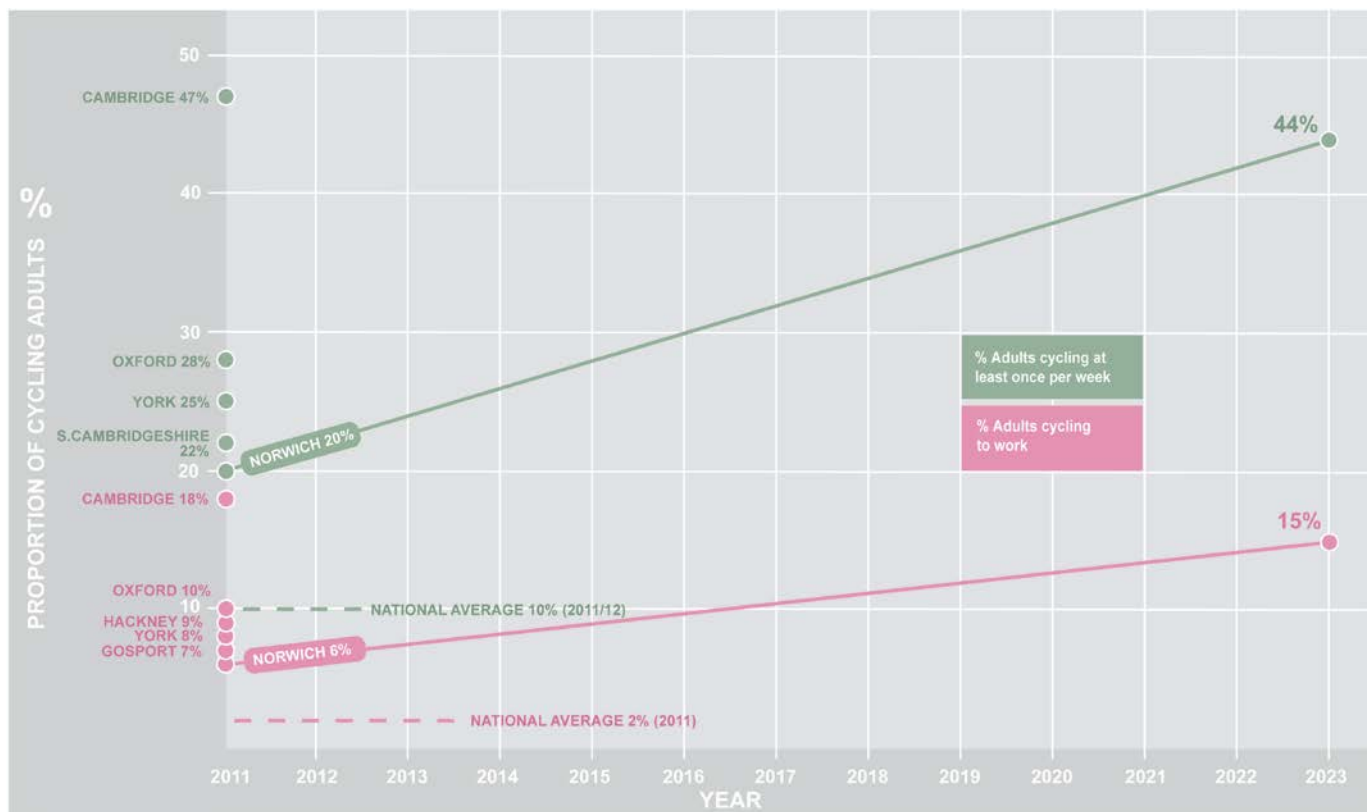


Figure 1 – Targets for cycling

It is worth noting that Norwich has reached a higher level of cycle use than any of the places that received funding under the Cycling Cities and Towns or the Cycling Demonstration Towns programmes

apart from Cambridge and York. Until the award of cycling ambition funding in 2013 Norwich had never had substantial sums of money to spend on cycling. We have an opportunity to prove that more than just one city in England is capable of reaching Dutch levels of cycling and furthermore that it is possible for a city without a major traditional university dominating its centre to do so. We want to be an inspiration to other cities.

Over the last 15 years the volume of cars crossing the inner ring road has reduced at the same time as the population has grown and Norwich's position in the retail ranking has soared. This has been achieved through determined implementation of measures to promote bus use, making it easier to walk and capping car parking levels in the city centre. However, the potential of cycling had not been realised until recently.

The situation changed with the adoption of several local policy documents:

- Norwich Area Transportation Strategy Implementation Plan (adopted April 2010 and ratified in November 2013)
- 3rd Local Transport Plan 2011-26 (adopted April 2011)
- Joint Core Strategy for Broadland, South Norfolk and Norwich (adopted in Jan 2014)
- Health & Wellbeing Strategy 2013-18 (published March 2013).

The new policy backing for cycling prompted a year of intense effort in 2011-12 to map a new cycle network. This was launched in June 2012 with the publication of our innovative waterproof cycle map. We followed this by building a series of projects in the north and east of the city during 2012-13 under the aegis of the Sustrans/Lottery funded Connect 2 project. Two new dedicated cycle and pedestrian bridges have been built in the city centre in the last five years, one of which was privately funded by Jarrolds as part of the St James' Place development.

Our compact geography with a medieval core, dry climate and network of green spaces means that our Cycle City Ambition Grant programme offers us a wonderful opportunity to build on these attributes to stimulate economic development without suffering the damaging effects of congestion and carbon emissions.

Development pressure means we need to act now. Around 30,000 new homes are planned for the Norwich area between now and 2026. We need to plan our sustainable transport network carefully so this development enriches our city rather than threatens our quality of life. Norwich is on the cusp of a cycling boom and we have the perfect opportunity to catalyse it through good infrastructure planning and promotion. This includes the integration of cycling with the development of bus rapid transit, especially on the Newmarket Road/A11/blue pedalway corridor.

The cycle network is evolving and opportunities to extend the pedalways out to neighbouring settlements, such as Wymondham, are being identified. Links for recreational cycling in the attractive Norfolk countryside are also being developed, as exemplified by the Three Rivers Way project that the county has recently submitted to DfT for National Park cycling ambition funding and Broadland Way,

that will connect it to the city. A project is also being developed for national cycle route 1/red pedalway extending out of the city that may be submitted for 'pipeline proposal' DfT funding.

Norwich aspires to be a healthier city. The city council endorsed the 2008 Zagreb declaration, demonstrating our commitment to improving the health and well-being of people living in Norwich and to ensure our policies support this. We worked with the clinical commissioning group and others to join the World Health Organisation UK Healthy Cities Network in August 2012.

Becoming a healthy city means working together on all the things which improve health and wellbeing, including physical activity, providing a healthy urban environment, good employment prospects, better housing conditions and good transport facilities. The Healthy Cities Network provides an opportunity to share learning with other healthy cities in the UK and Europe.

We will help to achieve these aims by building excellent cycling infrastructure that makes cycling the obvious choice for most utilitarian journeys around the city. This will help us to promote the bicycle as a useful tool for living a full and productive life in Norwich.

2. Our Key Issues

Jobs

Norwich has a divided economic geography. The maps at appendix 5 illustrate that there is a relatively high proportion of claimants of job seekers allowance, low levels of car ownership, high obesity rates and high levels of people reporting poor health in the north and south of the city adjacent to the yellow pedalway. Three main areas of employment growth are the city centre, the Norwich Research Park and the airport, which can be reached through the use of the yellow and blue pedalways (to be improved through this application) and the pink pedalway (currently being improved). The lack of excellent cycle routes and connections to them are a barrier to reaching these areas of employment development.

The jobs that will be created at the Norwich Research Park and airport industrial estate are suitable for people with a wide range of skills. Some jobs will appeal to globally mobile scientists who will be attracted to work in Norwich by the high quality of life. Many ancillary and auxiliary jobs will also be created that can be filled by the part of the local population with less advanced skills and qualifications. Jobs at the NRP will help local people to ascend the 'skills ladder', providing they can reach it conveniently and affordably.

Norwich has a competitive advantage in attracting businesses and employees who value its high quality of life, fine built environment and abundance of green spaces. We must develop this advantage by investing in the things that make the city attractive – architecture, public spaces, trees and cycling infrastructure.

Homes

76,000 residents aged twelve years and over currently live within 400m of the blue and yellow pedalways or in freestanding settlements served by them. This figure is likely to grow to 94,000 by 2026 as a result of development on land allocated in local plans.

These homes have to knit together into liveable neighbourhoods featuring networks of routes for cyclists and pedestrians. These local networks must plug into the strategic pedalways to avoid development generating damaging levels of car use. This is the plan for the new neighbourhoods that will flank the blue pedalway on the edge of Sprowston, Cringleford, Hethersett and Wymondham. The environmentally progressive development planned for the edge of Sprowston by developers Beyond Green will be connected to the blue pedalway by a new street that re-routes North Walsham Road using £5m of low interest borrowing agreed by the Greater Norwich Growth Board and nearly another £5m of funding to be raised by Beyond Green.

We have worked with Cringleford Parish Council on their pioneering neighbourhood plan, which was adopted in February 2014. This features the cycle network as part of the access framework for the planned development of 1,200 more homes in the parish and as a preferred method for the new residents to reach jobs at the NRP and in the city centre.

Health

There are clear benefits to public health that can be made by improving the cycling infrastructure in Norwich. Our public health colleagues at Norfolk County Council expect the programme to achieve the following health and wellbeing benefits:

Decreased prevalence of overweight/obesity. Reducing the prevalence of obesity is one of the key priorities of the Norfolk Health & Wellbeing Board. Physical activity makes the obese fitter and reduces the complications of obesity. Local analysis demonstrates that several areas through which the pedalways pass have higher than average rates of obesity. Improving these routes will therefore provide an opportunity for those not already using the infrastructure to at least contemplate doing so, and for those already considering cycling to move into taking action.

Increased levels of mobility. Cycling is a highly efficient way of exercising as it has a low impact on joints and mixes periods of high energy use with pauses for breath, and thus produces measurable improvements in fitness over a short period of time (Cavill et al, 2007).

Decreased prevalence of cardio-vascular and other disease. The National Institute for Health and Care Excellence (NICE) recommends that adults should engage in moderate intensity aerobic physical activity for at least 150 minutes a week. In order to maximise the benefits of this, exercise can be taken as 30 minutes on five or more days each week. Studies show that death from all causes, rates of cardio-vascular disease, depression and diabetes are reduced at these rates. A prospective population study of all-cause mortality (Anderson et al, 2000) comparing those who cycled to work with those who did not found a 39% higher death rate in the non-cyclists.

Increased prevalence of positive mood and sense of wellbeing and a decreased prevalence of mild to moderate mental health problems. NICE emphasises the role of increased physical activity in preventing mental illnesses such as depression and dementia and its role in improving mental well-being such as mood, self-perception and sleep. Similarly an increase in cycling equates to a reduction in road noise. NICE states that traffic noise is likely to increase stress, diminish sleep and increase some psychiatric illnesses.

An improved environment with less pollution, noise and danger from motorised traffic. Cycling benefits public health by reducing the pollution, noise, danger and streetscape degradation of motorised traffic. Motor vehicles produce air pollution, which exacerbates heart and lung diseases. Surveys (including the Norwich Cycle Survey 2014-15) show that many more people would like to cycle than actually do and the main reason they give is that they do not feel safe on the roads. NICE recommends that space should be re-allocated to support physically active modes of transport – widening pavements and introducing cycle lanes, as well as suggesting that restrictions should be placed on motor vehicle access such as closing roads or introducing traffic calming speeds to reduce capacity and therefore speed in order to increase cycling rates. They further recommend that walking and cycling should become the norm for short journeys and that councils, schools and employers need to encourage people to become more active.

References

National Institute for Health and Care Excellence, 2012: *PH41: Walking and cycling: local measures to promote walking and cycling as forms of travel or recreation.*

N. Cavill, A Davis, 2007: *Cycling and Health: What's the evidence?* Cycling England.

Andersen LB et al., 2000: *All-cause mortality associated with physical activity during leisure time, work, sports and cycling to work.* Archives of Internal Medicine, 160(11):1621-1628.

Streets

Most of the streets in the city centre have medieval origins and the pressure on scarce street space is intense. As bicycles use space very efficiently we are encouraging cycling in the city centre and restricting car access.

The inner and outer ring roads are real barriers to radial movement on bicycles between the suburbs and the city centre and are often the places where high levels of casualties occur. We do not want to reduce the effectiveness of the ring roads as efficient conduits of traffic, which keep vehicles off streets that are not designed for high volumes of traffic. Nevertheless, we need to cater much better for the needs of cyclists where pedalways cross the ring roads.

The intersection of the yellow pedalway and St Crispin's Road is one such location. The inner ring road is currently crossed through an ugly, inconvenient and threatening subway (see image overleaf). This discourages people from cycling and walking and traps the area immediately to the north in a blighted state because it is disconnected from the city centre. It needs to be replaced with a clear and convenient crossing on the surface. This will boost movement on the yellow pedalway and help to economically regenerate the area by stimulating development.

We have a tradition of excellent streetscape design in Norwich, guided by our Streetscape Design Manual <http://www.norwich.gov.uk/Planning/Pages/Streetscape.aspx>. Recent projects such as Prince of Wales Road Mixed Priority Route and St Georges Street CIVITAS/Spatial Metro scheme are evidence of this.

Reducing the speed of traffic on our streets is vital to reduce both the number of collisions between vehicles and cyclists and also to stop potential cyclists from being afraid to get on their bicycles. We are seizing the opportunity presented by the DfT guidance on speed management to expand the area where speeds are limited to 20mph.



St Crispins subway – proposed for replacement as part of the new programme

3. Preferred scheme selection process

Stage 1 - Confirming the principles behind the planned investment programme

The successful first application for cycling ambition funding that was submitted in April 2013 was based on several principles that provided a clear narrative for our proposals. These principles remain valid and inform the new application. They are:

- a) The pedalways will be prioritised for investment on the cycle network.
- b) Improvements to pedalways should be implemented comprehensively so that a coherent section of pedalway is upgraded.
- c) The sequence of pedalways to be upgraded will be determined by the extent to which it fulfils Corporate and Local Transport Plan objectives and the DfT draft Cycling Delivery Plan; complements other planned improvements in the vicinity of pedalways, and does not face insurmountable obstacles to implementation.
- d) The alignment of the pedalways can be altered if necessary to achieve a more direct route using the funding to overcome existing obstacles such as difficult junctions or gradients or to take advantage of development projects.
- e) The routes should be capable of being ridden confidently by people of all ages and abilities.
- f) It must be easy to reach the comprehensively upgraded pedalways from adjacent residential neighbourhoods because traffic speeds have been reduced to a maximum of 20mph throughout those neighbourhoods and the connecting neighbourhood routes.
- g) Overcoming obstacles to access for cyclists in the city centre is an important objective because this is the focus of many journeys.
- h) Opportunities to provide better conditions for pedestrians, for example by discouraging cycling on pavements, would recommend projects.
- i) Secure cycle parking and good information should be provided at key destinations on the pedalways.

Stage 2 - Prioritising the pedalways for investment

The six pedalways that await comprehensive investment were evaluated against a series of specific criteria. Those criteria were then grouped and weighted according to their contribution to the more general local transport plan objectives. The outcome was to confirm the established Greater Norwich Growth Board position that the yellow pedalway (Lakenham - airport) is the top priority for investment. The blue pedalway (Wymondham - Sprowston) also scored well. The yellow and blue pedalways have therefore been selected for the next phase of investment using the new cycling ambition funding.

Stage 3 - Identifying projects

There are numerous locations on the yellow and blue pedalways that require significant improvement to offer a good level of service for cyclists when measured against the standard evaluation criteria of directness, coherence, safety, comfort and attractiveness. These have been identified by officers at the city and county councils and ideas produced for how these parts of the routes can be brought up to a good standard. The Norwich Cycling Campaign supplied a list of projects, many of which have been incorporated into the programme. The project ideas have been checked for their compatibility with the approved Greater Norwich Growth Board infrastructure programme and discussed with officers from Broadland, South Norfolk, county public health and Sustrans. The engineering feasibility and cost estimates have been checked by county council engineers. A large majority of the projects are on highway or land owned by the city council. Where land is under third party control (e.g. airport, Anglia Square) meetings have taken place to confirm that those landowners are happy to work with the council on the projects that affect their land.

Stage 4 - Economic appraisal

The programme has been subjected to an economic appraisal to check that the programme offers sufficient value for money. Small adjustments to the programme have been made where a couple of project elements did not perform well.

Part B4 explains how we have selected the scheme elements that will address the issues identified in part B3.

B3. The Financial Case – Project Costs

The total cost of the investment package is £15.397m. Of this 54.7% is required from the DfT cycle ambition fund and 45.3% is match funding. The investment package is spread over four financial years. DfT funds will be spent in the first three and only match funding in the final year. The investment represents £10.10 per capita per year over four years.

Table A: Funding profile (Nominal terms) Figures should be entered in £000s (i.e. £10,000 = 10)

£000s	2015-16	2016-17	2017-18	2018-19	Total
DfT funding sought	915	4166	3346	0	8427
Local Authority contribution	605	310	175	0	1090
Third Party contribution	1015	1265	1550	2050	5880
TOTAL	2535	5741	5071	2050	15397

Notes:

1) Department for Transport funding is for the three years from 2015/16 to 2017/18.

2) Bids should seek to identify enough local contributions to bring the total spend on cycling to at least £10 per head.

B4. Package description

General note: The project details below will need to be subjected to thorough public consultation and approval processes. Therefore the objectives of the projects will be constant but the suggested method of achieving them will be challenged and refined through further design feasibility and consultation.

There are two package elements – the yellow pedalway, consisting of 24 projects and the blue pedalway, consisting of 18 projects. A further 3 projects affect locations in the city centre where both pedalways share the same alignment.

Blue pedalway

Project 1: Liberator Road

Problem: Current route via hostile traffic environment of Fifers Lane.

Potential solution: Opening up a quiet new access to the airport by rerouting the yellow and purple pedalways. Resurfacing, lighting and adjustment of barriers required.

Project 2: Spitfire Road – Hurricane Way

Problem: Cyclists sharing space with HGVs on industrial estate roads.

Potential solution: Cycle lanes.

Project 3: Hurricane Way – Heyford Road

Problem: No public access to development site owned by the city council.

Potential solution: New cycle link across planned development.

Project 4: Taylors Lane

Problem: No access from Dowding Road housing to yellow pedalway.

Solution: Create new path between housing areas.

Project 5: Fifers Lane/Ives Road/Heyford Road roundabout

Problem: Need to negotiate busy roundabout where traffic can pass through at speed.

Potential solution: Redesign roundabout as Dutch roundabout with tighter geometry, an annular cycle track and parallel cycle zebras on each approach arm.

Project 6: Ives Road – Weston Road industrial estate

Problem: Muddy tracks and steps connecting yellow pedalway to industrial estate access.

Potential solution: Provide ramped access and an asphalt path.

Project 7: Bussey Road – Ives Road

Problem: Narrow path.

Potential solution: Widen path.

Project 8: Mile Cross Lane (Fiddlewood – Catton Grove Road)

Problem: No dedicated space for cycling alongside heavily trafficked carriageway of outer ring road, cyclists held up in queues at the top of Catton Grove Road, degraded verges on south side of Mile Cross Lane, difficulty crossing Mile Cross Lane.

Potential solution: Cycle track on south side of Mile Cross Lane, verge restoration, landscape improvements and provision of car parking spaces to avoid obstructing cycle track, enhanced crossing.

Project 9: Woodcock Road/Catton Grove Road roundabout

Problem: Accident cluster site due to vehicles driving too fast through roundabout.

Potential solution: Redesign roundabout as Dutch roundabout with tighter geometry, an annular cycle track and parallel cycle zebras on each approach arm.

Project 10: Mile Cross – Angel Road via Pointers Field

Problem: Lack of a path on the desire line across Pointers Field.

Potential solution: Create new tree-lined and lit path.

Project 11: Angel Road

Problem: Some speed cushions next to parked cars guiding cyclists into dooring zone.

Potential solution: Replace cushions with sinusoidal humps.

Project 12: Shipstone Road/Angel Road/Waterloo Road junction

Problem: Awkward crossing movement for cyclists; poor surface and pinch point in Shipstone Road.

Potential solution: Create segregated toucan on desire line across Waterloo Road; improve planting and path surface in Shipstone Road.

Project 13: Edward Street north

Problem: Widen and segregate cycle and pedestrian paths as part of planned development of Edward Street car park; improve cycling crossing at north and south end of Edward Street to Heath Road and Botolph Street.

Project 14: St Crispins (St Georges – Botolph Street) crossing

Problem: Cycle route uses a 190m detour to avoid an ugly and threatening subway (see image above) under the inner ring road.

Potential solution: Fill in subway and replace with wide and clear segregated toucan on the surface with tree planting in subway entrance voids.

Project 15: Golden Ball Street/Westlegate/All Saints Green

Problem: One way system in Golden Ball Street and Westlegate and banned right turn from St Stephens Street into Rampant Horse Street inhibits cycling movement; missed opportunity to improve quality of public realm in Westlegate and All Saints Green; vehicles using All Saints Green as a through route for traffic.

Potential solution: Exclusion of through traffic from All Saints Green, two-way traffic in Golden Ball Street, no right turn from Westlegate into Red Lion Street, two-way cycling and public realm improvement in Westlegate.

Project 16: All Saints Green/Brazengate/Queens Road

Problem: Intimidating crossing of inner ring road with cyclists negotiating a multi-lane approach from Brazengate.

Potential solution: More separate cycling space and defined route through junction; advance start with dedicated low level signals for cyclists.

Project 17: Lakenham Way

Problem: Popularity of former railway path for pedestrians and cyclists leads to conflict, fears of anti-social behavior discourages use, awkward access points; appearance and wildlife quality degraded.

Potential solution: Widen and segregate path, improve lighting, resolve access problems, improve landscape and wildlife value.

Project 18: Sandy Lane (Bessemer Road – Lakenham Way)

Problem: Pelican crossing and narrow paths.

Potential solution: Toucan crossings and widened paths.

Project 19: Hall Road (Bessemer – Old Hall Road)

Problem: No cycling space on 40mph road, inadequate shared use paths elsewhere, difficult crossing arm of Neatmarket roundabout, informal residents parking degrading verge and putting cyclists in dooring zone.

Potential solution: Segregated cycle tracks between Fountains Road and Bessemer Road, define and properly surface residents parking space recessed away from cycle track; raised table crossing over Neatmarket, widen shared use path between Fountains Road and Old Hall Road.

Project 20: Ipswich Road – Old Hall Road

Problem: No facility to enable cyclists to join Old Hall Road from Ipswich Road

Potential solution: Right turn pocket and dropped kerb.

Project 21: 20mph areas (yellow)

Problem: Excessive driving speed in residential areas making it difficult to move around neighbourhoods and safely reach pedalway.

Potential solution: 20mph area and targeted traffic calming (see map for coverage).

Project 22: Cycle parking at hubs (yellow)

Problem: Insufficient cycle parking and information.

Potential solution: More cycle parking (some covered and secure) and information about cycling in Norwich.

Project 23: Wayfinding and clutter reduction (yellow)

Problem: Adjustments to cycle route need signposting.

Potential solution: New wayfinding signs and removal of clutter in the vicinity of the new signs.

Project 24: Monitoring infrastructure (yellow)

Problem: Lack of cycle counters.

Potential solution: Install new automatic cycle counters at isochrones.

Blue pedalway

Project 25: Wymondham – Hethersett cycle link

Problem: No cycle facilities on busy road connecting Wymondham and Hethersett.

Potential solution: Build off carriageway cycling and walking path.

Project 26: A11 north slip to Cringleford

Problem: Narrow shared use path, exposure to traffic leaving A11 at speed

Potential solution: Create wide two way cycle track using wasted hatched space on carriageway.

Project 27: Centre of Old Cringleford

Problem: Delays due to queuing traffic at single-lane bridge over River Yare, fast traffic descending the hill.

Potential solution: Review of priority working on bridge and opportunity for cyclists to bypass queues, 20mph limit with sensitively designed traffic calming.

Project 28: Bluebell Road (connector)

Problem: Narrow, roughly surfaced shared use path is uncomfortable and awkward for cyclists and causes conflict with pedestrians.

Potential solution: Widening and resurfacing of path.

Project 29: Eaton centre

Problem: Busy junction with inadequate or none existent cycling infrastructure to help cyclists negotiate the junction; degraded streetscape environment in historic village centre; integration needed with planned bus rapid transit interchange.

Potential solution: High quality shared space treatment or introduction of separate cycling space with streetscape declutter; cycle parking at bus rapid transit interchange.

Project 30: Eaton – Newmarket Road south slip road

Problem: One way cycle track creates need to negotiate busy gyratory arrangement; lack of a signalized crossing over A11 / Newmarket Road.

Potential solution: Cycle track widened for two way use and provision of toucan crossing.

Project 31: Newmarket Road (Unthank Road – outer ring road) path upgrade

Problem: Off carriageway path lacks priority crossings over side roads making cyclists feel unsafe; poor surface.

Potential solution: Better side road crossings and surface improvement.

Project 32: Newmarket Road/outer ring road and Leopold Road junctions

Problem: Hostile conditions for cyclists at these junctions combined with inconvenient crossings on off carriageway path.

Potential solution: Junction alterations to provide more space for cycling and better crossings.

Project 33: Newmarket Road (ORR – Hannover Road)

Problem: Lack of any dedicated space for cycling on a busy arterial road.

Potential solution: Stepped cycle tracks; adjustments to crossings and provision of new crossing.

Project 34: Wessex Street approach to Chapel Field Road

Problem: Narrow approach to toucan crossing shared with pedestrians; degraded planted areas.

Potential solution: Widening approach to crossing to provide separate space for cycling.

Project 35: Magdalen Road

Problem: No cycling facilities on busy road and approach to Magdalen Gates signaled junction, awkward maneuvering around parked cars.

Potential: Cycling lanes, especially on uphill section, feeder lane approach to Magdalen Gates junction, better connection through junction with Sprowston Road using wasted hatched area.

Project 36: St Clement's Hill (entrance to Sewell Park College)

Problem: Awkward pinch points lead to conflict between cyclists and motorists; guard railing inhibits pedestrian movement and is inappropriate in sensitive conservation area. Footpaths inadequate.

Potential solution: Redesign of pinch points and junction with Millcroft to improve crossing for school children, remove conflict between cyclists and motorists and make the street more attractive. Review traffic management.

Project 37: Chartwell Road/St Clement's Hill/Spixworth Road

Problem: Convoluted and narrow staggered crossing arrangement for cyclists and pedestrians over the outer ring road between Spixworth Road and St Clement's Hill.

Project 38: North Walsham Road (George Hill – edge of urban area)

Problem: No dedicated space for cycling on busy road.

Potential solution: Provide cycle lanes or tracks and space at junctions with George Hill and White Woman Lane.

Project 39: 20mph areas (blue)

Problem: Excessive driving speed in residential areas making it difficult to move around neighbourhoods and safely reach pedalway.

Potential solution: 20mph area and targeted traffic calming (see map for coverage).

Project 40: Cycle parking at hubs (blue)

Problem: Insufficient cycle parking and information.

Potential solution: More cycle parking (some covered and secure) and information about cycling in Norwich.

Project 41: Wayfinding and clutter reduction (blue)

Problem: Adjustments to cycle route need signposting.

Potential solution: New wayfinding signs and removal of clutter in the vicinity of the new signs.

Project 42: Monitoring infrastructure (blue)

Problem: Lack of cycle counters.

Potential solution: Install new automatic cycle counters at isochrones.

Yellow and blue pedalways

Project 43: St George's Street/Colegate junction

Problem: Safety concerns resulting from poor visibility emerging crossing Colegate.

Potential solution: Change surfacing of junction to high quality shared space to promote consideration between road users.

Project 44: Opie Street/Castle Meadow

Problem: Awkwardly angled turn from Castle Meadow into Opie Street.

Potential solution: Cycle slip lane smoothing transition between streets.

Project 45: City centre access strategy for cyclists

Problem: One way streets restrict cycling access and force the use of less direct routes; mixture of restrictions for cyclists and loading in central streets leading to confusion, enforcement problems and streetscape clutter.

Potential solution: Contraflow lanes and review of cycling and loading restrictions.

B5. Package costs

A spreadsheet itemising the projects, with a cost estimate, funding source and spend profile for each is enclosed at appendix 2.

B6. The Financial Case - Local Contribution / Third Party Funding

Please provide information on the following points (where applicable):

- a) *Any non-DfT contribution may include funding from organisations other than the scheme promoter. Please provide details of all non-DfT funding contributions to the scheme costs. This should include evidence to show how any third party contributions are being secured, the level of commitment and when they will become available.*

Projects 1, 3, 4, 8, 10, 15 and 19 are either wholly or partly funded through £211k section 106 funds held by Norwich City Council.

Project 1 is being partly funded through £30k of capital expenditure by Rigby Group plc (owners of the airport).

Projects 15, 29 and 37 are partly funded through £720k of funds in the Greater Norwich Growth Board CIL funded strategic investment pool held by Norfolk County Council.

Projects 15, 25, 26, 27, 29, 30, 31 and 33 are partly or wholly funded through £5.85m of Local Growth Fund money held by New Anglia LEP.

Project 19 is partly funded through £159k of section 106 funds held by Norfolk County Council.

- b) *Where the contribution is from external sources, please provide a letter confirming the body's commitment to contribute to the cost of the scheme. The Department is unlikely to fund any scheme where significant financial contributions from other sources have not been secured or appear to be at risk.*

Letters have been supplied by Norfolk County Council, New Anglia LEP and Rigby Group plc (owners of the airport) stating that the money referred to above has been allocated to the programme. These are enclosed at appendix 6.

B7. Cycling Delivery Plan Partnership Projects

Acceptance of this grant means that the party agrees to work with the Department for Transport as a partner in the realisation of the Cycling Delivery Plan (currently in draft and due to be published in 2015).

We agree to work with the Department as partners of the Cycling Delivery Plan: Yes No

B8. The Economic Case – Value for Money

Summary of economic case

Note: The programme costs include 15% optimism bias in line with WebTAG guidance.

The estimated Benefit to Cost Ratio (BCR) of 2.58 is comfortably within the DfT high value for money category (BCR>2.0). The minimum requirement to demonstrate at least medium value for money (BCR >1.5) is thus exceeded by a significant margin.

Analysis of Monetised Costs and Benefits (2010 prices, discounted over 30 years):

Scheme capital cost	£13,410,324
Public accounts Present Value of Costs	£13,410,324
Consumer users (travel time savings)	£1,107,844
Physical activity (reduced mortality)	£6,322,565
Journey quality	£2,520,065
Accidents	£24,288,938
Business users (reduced absenteeism)	£382,885
Present Value of Benefits	£34,622,298
Net Present Value	£21,211,973
Benefit to Cost Ratio	2.58

The economic case pro formas are enclosed at appendix 3 and supported by a detailed economic appraisal report enclosed at appendix 4, which provides all the technical background data and explanation. These documents exclusively relate to the beneficial and adverse impacts of the new project.

The current Cycle Ambition Grant programme is progressing well. All the projects have received approval, some are complete, others are being built now and a few will begin in late spring and early summer. We are on track for completion as planned in autumn 2015. More details of these outputs can be seen at www.norwich.gov.uk/pedalways. The beneficial outcomes will only be felt and measurable when the programme is completed. Sustrans is happy with our monitoring and evaluation framework.

SECTION C – Monitoring, Evaluation and Benefits Realisation

C1. Monitoring and Evaluation

Evaluation is an essential part of scheme development and should be considered and built into the planning of a scheme from the earliest stages. Evaluating the outcomes and impacts of schemes is important to show if a scheme has been successful.

Please confirm that you are committed to working with the Department and Sustrans to improve current monitoring and evaluation plans, and that you agree to improve processes where needed to enable end of programme comparisons across the Cycling Ambition cities.

Yes No

SECTION D: Declarations

D1. Senior Responsible Owner Declaration

As Senior Responsible Owner for Push the Pedalways: blue and yellow I hereby submit this request for approval to DfT on behalf of Norwich City Council and confirm that I have the necessary authority to do so.

I confirm that Norwich City Council will have all the necessary statutory powers in place to ensure the planned timescales in the application can be realised.

Name: Dave Moorcroft

Signed:

Position:

Executive Director for Regeneration and Development



D2. Section 151 Officer Declaration

As Section 151 Officer for Norwich City Council I declare that the scheme cost estimates quoted in this bid are accurate to the best of my knowledge and that Norwich City Council

- will consider at its council meeting on 17 February 2015 the allocation of sufficient budget to deliver this scheme on the basis of its proposed funding contribution
- will also consider at its council meeting its acceptance of responsibility for meeting any costs over and above the DfT contribution requested, including potential cost overruns and the underwriting of any funding contributions expected from third parties
- accepts responsibility for meeting any ongoing revenue requirements in relation to the scheme
- accepts that no further increase in DfT funding will be considered beyond the maximum contribution requested and that no DfT funding will be provided after 2017/18
- confirms that the authority has the necessary governance/assurance arrangements in place and, for smaller scheme bids, the authority can provide, if required, evidence of a stakeholder analysis and communications plan in place

Name: Justine Hartley

Signed:





 **Norfolk** County Council

 **Broadland**
District Council

 **South Norfolk**
COUNCIL

 **Healthy
Norwich**

 **sustrans**
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